

GEPHE SUMMARY

Lectin-24A (#gephebase-summary-title)	Gephebase Gene	GP00002655	GepheID
Published	Entry Status	Courtier	Main curator

PHENOTYPIC CHANGE

Physiology (#gephebase-summary-title)	Trait Category		
Pathogen resistance (parasitic wasp) (https://www.gephebase.org/search-criteria?/and+Trait=Pathogen resistance (parasitic wasp)#gephebase-summary-title)	Trait		
Drosophila melanogaster - resistant	Trait State in Taxon A		
Drosophila melanogaster - lost the resistance	Trait State in Taxon B		
Taxon A	Ancestral State		
Intraspecific (#gephebase-summary-title)	Taxonomic Status		
Drosophila melanogaster (#gephebase-summary-title)	Taxon A	Drosophila melanogaster (#gephebase-summary-title)	Taxon B
fruit fly	Latin Name	fruit fly	Latin Name
Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster	Common Name	Sophophora melanogaster; fruit fly; Drosophila melanogaster Meigen, 1830; Sophophora melanogaster (Meigen, 1830); Drosophila melangaster	Common Name
species	Synonyms	species	Synonyms
cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	Rank	cellular organisms; Eukaryota; Opisthokonta; Metazoa; Eumetazoa; Bilateria; Protostomia; Ecdysozoa; Panarthropoda; Arthropoda; Mandibulata; Pancrustacea; Hexapoda; Insecta; Dicondylia; Pterygota; Neoptera; Holometabola; Diptera; Brachycera; Muscomorpha; Eremoneura; Cyclorrhapha; Schizophora; Acalyptratae; Ephydroidea; Drosophilidae; Drosophilinae; Drosophilini; Drosophila; Sophophora; melanogaster group; melanogaster subgroup	Rank
melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351)	Lineage	melanogaster subgroup () - (Rank: species subgroup) (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=32351)	Lineage
7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227)	Parent	7227 (https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=7227)	Parent
No	NCBI Taxonomy ID	No	NCBI Taxonomy ID
	is Taxon A an Intraspecies?		is Taxon B an Intraspecies?

GENOTYPIC CHANGE

lectin-24A	Generic Gene Name	Q9VQU4 (http://www.uniprot.org/uniprot/Q9VQU4)	UniProtKB Drosophila melanogaster
AC 005149A; AC005149a; CG3410; Dmel\CG3410; lectin-24A-RA; Dmel_LCG3410	Synonyms	()	GenebankID or UniProtKB
7227.FBpp0077228 (http://string-db.org/newstring.cgi/show_network_section.pl?identifier=7227.FBpp0077228)	String		
-	Sequence Similarities		
GO:0030246 : carbohydrate binding (https://www.ebi.ac.uk/QuickGO/term/GO:0030246)	GO - Molecular Function		
GO:0005534 : galactose binding (https://www.ebi.ac.uk/QuickGO/term/GO:0005534)	GO - Biological Process		
GO:0016339 : calcium-dependent cell-cell adhesion via plasma membrane cell adhesion			

molecules (<https://www.ebi.ac.uk/QuickGO/term/GO:0016339>)

GO:0043152 : induction of bacterial agglutination
(<https://www.ebi.ac.uk/QuickGO/term/GO:0043152>)

GO - Cellular Component

GO:0005576 : extracellular region (<https://www.ebi.ac.uk/QuickGO/term/GO:0005576>)

GO:0009897 : external side of plasma membrane
(<https://www.ebi.ac.uk/QuickGO/term/GO:0009897>)

Presumptive Null

No ([https://www.gephebase.org/search-criteria?/and+Presumptive Null="+No+"#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Presumptive+Null=))

Molecular Type

Cis-regulatory ([https://www.gephebase.org/search-criteria?/and+Molecular Type="+Cis-regulatory+"#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Molecular+Type=))

Aberration Type

Deletion ([https://www.gephebase.org/search-criteria?/and+Aberration Type="+Deletion+"#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Aberration+Type=))

Deletion Size

10-99 bp

Molecular Details of the Mutation

A cis-regulatory polymorphism in the gene Lectin-24A abolishes expression after infection and strongly reduces survival. 21bp indel (c.-171_-151del)

Experimental Evidence

Linkage Mapping ([https://www.gephebase.org/search-criteria?/and+Experimental Evidence="+Linkage Mapping+"#gephebase-summary-title](https://www.gephebase.org/search-criteria?/and+Experimental+Evidence=))

Main Reference

Recurrent loss of an immunity gene that protects *Drosophila* against a major natural parasite . (2022) (<https://pubmed.ncbi.nlm.nih.gov/00000000.000050>)

Authors

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Abstract

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Additional References

RELATED GEPHE

Related Genes

15 (18-wheeler, CG8492, Dipteracin, Drosomycin-like 5, Ge-1, GGBP1, GGBP2, Immune deficiency, pastrel, PGRP-LC, ref(2)P, SR-CII, Tehao, Ubiquitin conjugating enzyme E2H (Ubc-E2H), CHKov1) ([https://www.gephebase.org/search-criteria?/or+Taxon ID="+7227+"/and+Trait="+Pathogen resistance"/and+groupHaplotypes=true#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Taxon+ID=))

Related Haplotypes

4 ([https://www.gephebase.org/search-criteria?/or+Gene Gephebase="+Lectin-24A"/and+Taxon ID="+7227"/or+Gene Gephebase="+Lectin-24A"/and+Taxon ID="+7227"#gephebase-summary-title](https://www.gephebase.org/search-criteria?/or+Gene+Gephebase=))

EXTERNAL LINKS

COMMENTS

Lectin-24A is important in the immune response that protects fruit flies against one of their main natural enemies—parasitic wasps. This immune defiance appears to be costly. Many flies carry mutated copies of this gene that are no longer functional. @BioRxiv @CRISPR